



**Grow the new Story.**  
New logistics, nurturing a new society together.

**SG Holdings Group**

# TCFD REPORT

Issued March 2023

## CONTENTS

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1 : Background of Initiatives .....	01
2 : Details of TCFD Responses .....	01
3 : Summary of Results of FY2022 Analysis ..	03
4 : Governance and Risk Management .....	04
5 : Strategy (Risks) .....	05
6 : Strategy (Business Opportunities) .....	11
7 : Metrics and Targets .....	12
8 : Sources and Notes .....	13

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# 1. Background of Initiatives

As the global transition to a carbon-free society progresses, the realization of sustainable management is becoming increasingly important for companies. The SG Holdings Group recognized its responsibility as a group of logistics companies handling social infrastructure, and expressed support for the Task Force on Climate-Related Financial Disclosures (TCFD) in 2019. Seeing climate change to be a serious issue for the Group, the Group began scenario analysis based on TCFD recommendations in July 2021. The Group established a “Decarbonization Vision” in 2022, has set CO<sub>2</sub> emission reduction targets, and manages progress as metrics/targets for addressing climate change. The purpose of the analysis is to ascertain the risks and opportunities related to climate in business continuity, and to take measures based on the assumption of a variety of situations. In future, such efforts will continue in line with changes in social conditions and advancements in technology, and be merged with business strategy, included in risk management processes and utilized to engage in deeper internal and external communication.

Reference sites	Official TCFD site ( <a href="https://www.fsb-tcfid.org/">https://www.fsb-tcfid.org/</a> ) TCFD Consortium ( <a href="https://tcfid-consortium.jp/en">https://tcfid-consortium.jp/en</a> )
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# 2. Details of TCFD Responses

In the initial scenario analysis in 2021, basic analysis using information from international research institutions such as IEA\*<sup>1</sup>, and exhaustively identified important climate-related risks. The 2022 analysis dug deeper by setting sub-scenarios taking into account the conditions in Japan and the unique characteristics of the Group. We will engage in the realization of sustainable growth by anticipating a variety of risks and flexibly taking steps to address them facing a highly uncertain future.

See the [TCFD Report \(Issued in March 2022\)](#) for analysis in 2021.

	FY2019	FY2021	FY2022
	Endorsement of TCFD Recommendations	General analysis in line with recommendations	Analysis taking into account domestic conditions and the uniqueness of the Group
Action	<ul style="list-style-type: none"> <li>Announcement of endorsement</li> <li>Participation in TCFD Consortium</li> </ul>	<ul style="list-style-type: none"> <li>Basic scenario analysis according to recommendations</li> <li>Use of information and data of international research institutions</li> </ul>	<ul style="list-style-type: none"> <li>Analysis based on domestic power mix and weather anomalies (heavy snowfall and intense heat)</li> <li>Use of the company’s energy simulations</li> </ul>
Disclosure	-	<ul style="list-style-type: none"> <li>TCFD Report 2022</li> <li>Integrated Report 2022, etc.</li> </ul>	<ul style="list-style-type: none"> <li>TCFD Report 2023</li> <li>Assumed Integrated Report 2023, etc.</li> </ul>

■ Initiatives to Address the Four TCFD Recommendations

	FY2021	FY2022
Reference	TCFD Report issued in March 2022	TCFD Report issued in March 2023
<b>Governance</b>	<ul style="list-style-type: none"> <li>The CSR Committee chaired by the Chairperson, CEO and President of SG Holdings creates management systems and promotes activities related to sustainability. (Held three times)</li> <li>Important matters related to climate change are considered, reported to the Board of Directors and managed/supervised by the CSR Committee.</li> </ul> <p>&lt;Content of reports to the Board of Directors&gt;</p> <ul style="list-style-type: none"> <li>TCFD scenario analysis results</li> <li>Progress of reduction of CO<sub>2</sub> emissions for decarbonization targets, etc.</li> </ul>	<ul style="list-style-type: none"> <li>The Sustainability Committee (name changed from CSR Committee) chaired by the Chairperson, CEO and President of SG Holdings creates management systems and promotes activities related to sustainability. (Held four times)</li> <li>Important matters related to climate change are considered, reported to the Board of Directors and managed/supervised by the Sustainability Committee.</li> </ul> <p>&lt;Content of reports to the Board of Directors&gt;</p> <ul style="list-style-type: none"> <li>Group measures related to climate changes</li> <li>TCFD scenario analysis results</li> <li>Progress of reduction of CO<sub>2</sub> emissions for decarbonization targets, etc.</li> </ul>
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Exhaustive identification and evaluation of risks</li> </ul> <p>&lt;Transition risks&gt;</p> <ul style="list-style-type: none"> <li>Business cost due to carbon-free transition</li> </ul> <p>&lt;Physical risks&gt;</p> <ul style="list-style-type: none"> <li>Cost of damage caused by storms and floods</li> <li>Air conditioning costs</li> </ul>	<ul style="list-style-type: none"> <li>The Mid-Term Management Plan establishes “Promotion of services aimed at solving social and environmental issues such as decarbonization” as a key strategy*<sup>2</sup></li> <li>Digging deeper into analysis taking into account domestic conditions</li> </ul> <p>&lt;Transition risks&gt;</p> <ul style="list-style-type: none"> <li>Financial impact of energy changes</li> </ul> <p>&lt;Physical risks&gt;</p> <ul style="list-style-type: none"> <li>Cost of damage caused by heavy snowfall</li> <li>Risk of heatstroke and cost of measures</li> </ul>
<b>Risk management</b>	<ul style="list-style-type: none"> <li>Valuation using the Group’s risk management evaluation criteria in the same way as other business risks</li> <li>Management of climate change risk through Group Risk Management Meetings</li> </ul>	<ul style="list-style-type: none"> <li>Valuation using the Group’s risk management evaluation criteria in the same way as other business risks</li> <li>Management of climate change risk through Group Risk Management Meetings</li> </ul>
<b>Metrics and Targets</b>	<p>Establish and manage emission reduction targets through the Group’s “Decarbonization Vision.”</p> <p>&lt;Emission reduction targets&gt;</p> <ul style="list-style-type: none"> <li>Scope 1 and 2 2030: 46% reduction in CO<sub>2</sub> emissions (* compared to FY2013) 2050: Aim to become carbon neutral</li> <li>Scope 3 Engage in reduction of emissions throughout the entire supply chain</li> </ul>	<p>Establish and manage emission reduction targets through the Group’s “Decarbonization Vision.”</p> <p>&lt;Emission reduction targets&gt;</p> <ul style="list-style-type: none"> <li>Scope 1 and 2 2030: 46% reduction in CO<sub>2</sub> emissions (* compared to FY2013) 2050: Aim to become carbon neutral</li> <li>Scope 3 Engage in reduction of emissions throughout the entire supply chain</li> </ul> <p>&lt;Transition plan (Sagawa Express)&gt;</p> <p>Percentage of implementation of environmentally friendly vehicles including EVs FY2021 results: 59% FY2030 target: 98%</p> <p>Percentage of renewable energy in electricity used FY2021 results: 14% FY2030 target: 40%</p>

### 3. Summary of Results of FY2022 Analysis

The Group has set the goal of reducing GHG emissions in line with the 1.5°C target, and is engaged in decarbonization. However, it is anticipated that business activities will be significantly affected by future changes in energy sources, price fluctuations and carbon taxes based on legal regulations, etc. due to much of the energy used in transportation being derived from fossil fuels. In the transition risk analysis for the current fiscal year, we estimated the financial impact taking into account risk elements such as changes in the power mix and carbon taxes in the company’s own energy strategy simulations aimed at achieving the reduction target.

As a result, additional costs totaling around 5.4 to 9.4 billion yen including carbon tax of around 3.3 billion yen will arise in 2030, and the risk is medium to large. After that, additional costs will decrease as decarbonization progresses toward 2050, and in the long term, the risk assessment shifted to small to medium. Carbon tax that is a factor in increased cost is a trade-off that can be offset through the progress of decarbonization measures. For this reason, we believe it is necessary to consider measures with a higher cost effectiveness while considering the impact on social conditions.

The analyses on the financial impact contained in this report are simulations and not assurances of the realization the scenarios. Furthermore, it may vary in the event the assumed data is revised or modified.

	Major risks and opportunities	Impact	Response strategy
Transition risks	Increased costs and carbon tax caused by change in purchased energy	<b>Medium to large</b> <ul style="list-style-type: none"> <li>2030 5.4 to 9.4 billion yen</li> </ul>	<ul style="list-style-type: none"> <li>Investment in measures to reduce CO<sub>2</sub> emissions</li> <li>Deployment of services with decarbonization as an added value</li> </ul>
		<b>Small to medium</b> <ul style="list-style-type: none"> <li>2050 0.8 to 2 billion yen (Refer to Climate Scenarios on page 5)</li> </ul>	
Physical risks	Increased frequency of localized heavy snowfall	<b>Small</b> <ul style="list-style-type: none"> <li>Expected loss value: -7.5 million yen (4°C Scenario, 2050)</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing BCP creation and improvement</li> <li>Ensuring safety of employees</li> </ul>
	Risk of heatstroke and additional cost caused by intense heat	<b>Medium</b> <ul style="list-style-type: none"> <li>2.32X the number of people taken to hospital due to heatstroke (4°C Scenario, 2050)</li> <li>Additional cost for increase in break times: 3.1 billion yen (4°C Scenario)</li> </ul>	<ul style="list-style-type: none"> <li>Complex measures to address heat such as fan vests and neck coolers</li> <li>Strengthening responses such as saving labor and improvement of productivity</li> </ul>
Business opportunities	Reduction of costs and GHG emissions through improvement of transportation efficiency	<ul style="list-style-type: none"> <li>Modal shift Reduction of CO<sub>2</sub> emissions: -127,000t-CO<sub>2</sub> / year</li> <li>Promotion of environmentally friendly safe driving Cost reduction: 1 billion yen / year</li> </ul>	<ul style="list-style-type: none"> <li>Expansion of Hikyaku JR containers</li> <li>Continuation of education on environmentally friendly safe driving</li> </ul>
	Expansion of services with decarbonization as an added value	<ul style="list-style-type: none"> <li>Increased competitiveness and revenues through provision of transportation service curbing CO<sub>2</sub> emissions</li> </ul>	Implementation of decarbonized logistics services through GOAL®, a team specializing in the resolution of logistics issues
	Contribution to local disaster prevention through disaster relief services	<ul style="list-style-type: none"> <li>Strengthening of competitiveness through disaster logistics consulting, etc.</li> </ul>	Expansion of “Town Support” service supporting the resolution of issues in the local community.

Evaluation of the impact is measured according to the Group’s risk management evaluation criteria\*3.

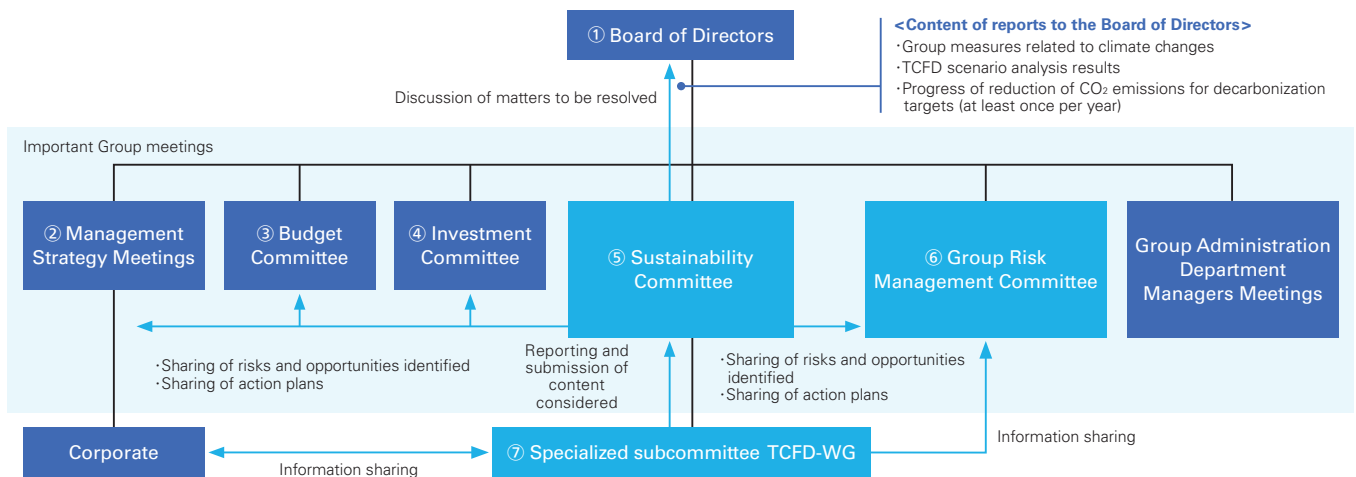
## 4. Governance and Risk Management

The SG Holdings Group has established a Sustainability Committee for the purpose of creating management systems for the entire Group concerning sustainability, and the promotion of ongoing improvement activities. The committee is chaired by the Chairperson, CEO and President of SG Holdings, and meetings are held four times a year in principle. A specialized subcommittee (TCFD Working Group: TCFD-WG) analyzes and considers climate-related risks and opportunities, and reports and submits its findings to the Sustainability Committee. The results considered in the committee are reported to the Board of Directors in a system for performing management and oversight. Furthermore, these climate-related risks are evaluated and managed in the same manner as other business risks by sharing information with Group Risk Management Meetings that serves as the Group’s risk management organization.\*

\* See the SG Holdings Group corporate site for details.

<https://www.sg-hldgs.co.jp/en/csr/mission/responsibility/risk/>

### ■ Organizational Chart of Governance Related to Climate



### ■ Meeting Bodies in Climate-Related Governance Systems

Meeting body	Composition	Role	Meeting frequency
① Board of Directors	Directors and Audit & Supervisory Board Members of SG Holdings	Decision-making on execution of business in general	Once per month
② Management Strategy Meetings	Directors and Executive Officers of SG Holdings, personnel responsible for each department and Presidents of Group companies	Discussion of Group management strategy	Once per month
③ Budget Committee	Directors and Executive Officers of SG Holdings and personnel responsible for each department	Reviewing and reporting important matters related to the Group’s management plans	Once per month
④ Investment Committee	Directors and Executive Officers of SG Holdings and personnel responsible for each department	Reviewing and verifying the execution of the Group’s proposed investment plans	Once per month
⑤ Sustainability Committee	Chairman: Chairperson, CEO and President of SG Holdings Members: Directors and Executive Officers of SG Holdings and personnel responsible for each department	Reviewing the Group’s sustainability measures including responses to climate change, and promoting the creation of management systems and ongoing improvement activities.	Four times per year
⑥ Group Risk Management Meetings	Directors and Executive Officers of SG Holdings, personnel responsible for each department and Presidents of Group companies	Reviewing and verifying the Group’s risk management including responses to climate change	Once per month
⑦ Specialized subcommittee TCFD Working Group	Person in charge: General Manager, ESG Promotion Department, SG Holdings Members: Personnel in charge in relevant departments	Analyzing and reporting on the Group’s climate-related risks and opportunities as an organization under the Sustainability Committee	Twice per year (FY2022)

## 5. Strategy (Risks)

### Transition Risks

#### Changes in Procured Energy Based on Domestic Conditions and the Financial Impact Thereof

Due to operating a comprehensive logistics business, it is anticipated that the Group will be significantly affected by future changes in energy sources, price fluctuations and carbon taxes based on legal regulations, etc. due to much of the energy used in transportation being derived from fossil fuels. In this analysis, we estimated the financial impact considering risk elements such as changes in the power mix and carbon taxes in the company's own energy strategy simulations aimed at achieving the reduction targets.

#### ■ Preconditions

Item	Condition	Remarks
Scope	SG Holdings Group (Japan)	Vehicle-related data only covers Sagawa Express.
Climate scenario	The Company aims to be carbon neutral in 2050, but assumed a sub-scenario of society not proceeding at the 1.5°C level.	—
Time scale	Medium term:2030 Long term:2050	The time scale was matched to the greenhouse gas emission reduction targets of the Group and Japan. For convenience, 2020 is used as the present. The nearest year available was referred to in cases where reference data could not be obtained.

#### ■ Reference Data

##### (1) Power Mix Assumed for Electricity Cost

▶ As a risk scenario, additional consideration was given to the power mix in the event the utilization of renewable energy or nuclear energy is delayed.

	Renewable energy	Hydrogen and ammonia	Nuclear power	LNG	Coal	Oil, etc.
Sixth Strategic Energy Plan	36 to 38%	1%	20 to 22%	20%	19%	2%
<b>Risk scenario</b>	<b>30%</b>	<b>1%</b>	<b>15%</b>	<b>27%</b>	<b>25%</b>	<b>2%</b>

\* The projections of Takeo Kikkawa, Vice President and Professor, Graduate School of International Management, International University of Japan were applied.  
\* IEA WEO2022\*4 APS\*5 was applied for insufficient data.

##### (2) Fuel Cost

Fluctuation of fuel cost was estimated using IEA WEO2022 incorporating the effect of the invasion of Ukraine.

▶ Prices rising compared to 2020

	Unit	2020	2030	2050
Gasoline unit price	yen / L	150	164.8 ↑	162.7
Diesel unit price	yen / L	125	139.8 ↑	137.7
CNG unit price	yen / m3	120	125.3 ↑	117.8

##### (3) Carbon Tax

The exchange rate is converted at 109.75 yen/USD according to the IEA WEO2022 definition.

	2020	2030	2050
Per t-CO <sub>2</sub>	—	14,816 yen (135 USD)	21,950 yen (200 USD)

## Financial Impact Analysis

An “Energy Strategy Simulation” (three following strategies) created for the Group to achieve emission reduction targets was used to estimate the financial impact by applying parameters considering risk elements.

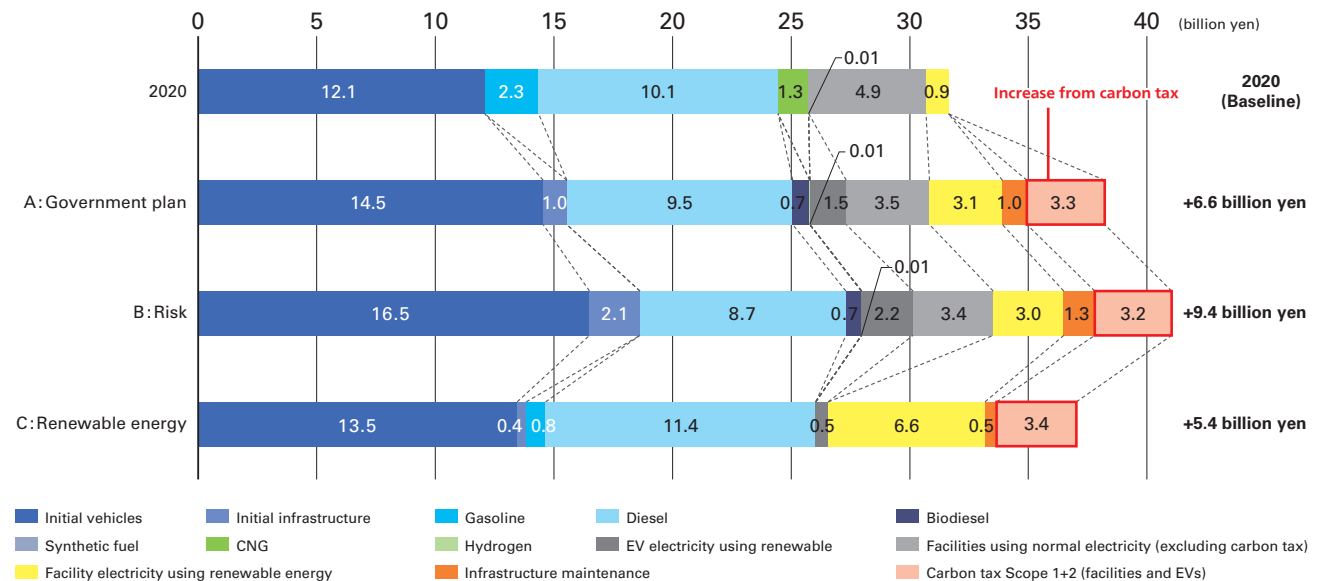
\* The conditions as of November 2022 were used for the following scenarios.  
 \* All CO<sub>2</sub> emissions are set to be reduced by approximately 46% in 2030 and approximately carbon neutral in 2050.

Scenario	Conditions	Fuel	Electricity	Carbon tax
<b>A</b> Government plan scenario	A scenario based on the power mix, technological advances, energy prices and vehicle mix satisfying SBT criteria assumed by the government Renewable energy rate: 45% Fuel consumption improvements: 15% Light vehicle EVs: 100% Light-duty electric trucks: 15%	IEA WE02022	Sixth Strategic Energy Plan	IEA WE02022
<b>B</b> Risk scenario	A scenario with the same preconditions as A, while assuming the risk that energy prices, emission factor and rate of improvement of vehicle fuel consumption will not reach the planned levels Renewable energy rate: 45% Fuel consumption improvements: 10% Light vehicle EVs: 100% Light-duty electric trucks: 30%	IEA WE02022	Expert opinion	IEA WE02022
<b>C</b> Active introduction of renewable energy scenario	A scenario that increases the percentage of introduction of electricity from renewable energy as much as possible, which is a realistic means as a measure to reduce GHG emissions Renewable energy rate: 100% Fuel consumption improvements: 15% Light vehicle EVs: 65%	IEA WE02022	Expert opinion	IEA WE02022

## Financial Impact in 2030 (Compared to 2020)

The additional cost is approximately 5.4 billion yen to 9.4 billion yen  
 Percentage in relation to the planned operating income (considering business growth): Approximately 3% to 6%  
 Risk management evaluation: Medium to large

- Carbon taxes will be incurred
- Vehicle expenses, renewable energy procurement expenses, etc. will increase
- The active introduction of renewable energy scenario can limit costs the most



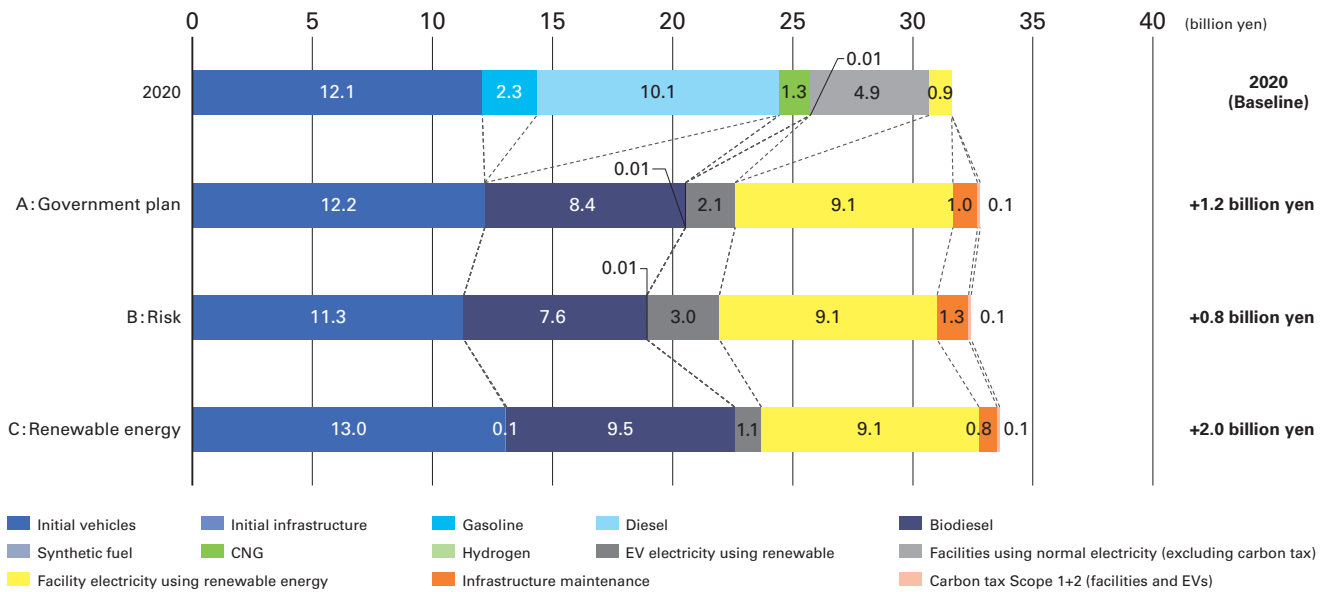
### Financial Impact in 2050 (Compared to 2020)

The additional cost is approximately 800 million yen to 2.0 billion yen

Percentage in relation to the planned operating income (considering business growth): Approximately 0.4% to 1%

Risk management evaluation: Small to medium

- It is assumed that there will almost be no carbon tax due to being carbon neutral



Additional costs including approximately 3.3 billion yen in carbon taxes will be approximately 5.4 to 9.4 billion yen in 2030, but it is estimated that additional costs will subsequently decrease as decarbonization progresses toward 2050.

In the reduction of emissions in transportation, which account for a large percentage in the Company, there are currently issues to be considered such as the cost aspect of promoting the introduction of electric trucks, and alternative energy (hydrogen, synthetic fuel) remains in research and development, and it is recognized that time will be required for practical implementation. In such conditions, the “active introduction of renewable energy scenario” is believed to be the most realistic and effective measure for the Group from a medium-term perspective until 2030.



## Physical Risks

### Financial Impact of Increased Frequency of Localized Heavy Snowfall

According to research by the Japan Meteorological Agency, although overall snowfall in Japan will decrease if temperatures rise by 4°C, it is forecast that there will be an increase in once-in-a-decade heavy snowfall in the Hokuriku region. With the recognition that understanding the impact on the relevant regions is essential for the Group operating a nationwide transportation network, this analysis estimated the financial impact by multiplying the rate of increase in frequency of once-in-a-decade heavy snowfall by the past amount of damage during heavy snowfall at Sagawa Express sites in Hokuriku.

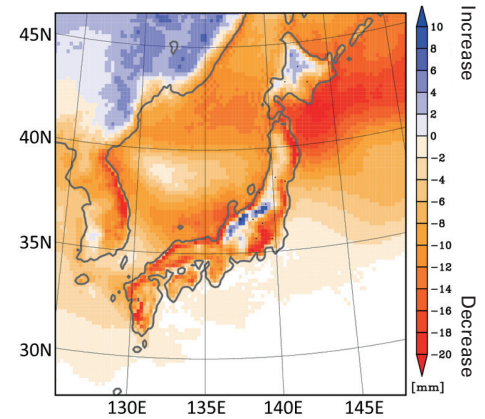
#### ■ Preconditions

Item	Condition
Scope	Sagawa Express Hokuriku Branch (13 sales offices)
Climate scenario	4°C Scenario
Time scale	Long term: 2050, end of 21st century
	* End of 21st century refers to 2080 to 2099 * For convenience, 2020 is used as the present. The nearest year available was referred to in cases where reference data could not be obtained.

#### ■ Reference Data

- Paper by Department of Applied Meteorology Research, Meteorological Research Institute, Japan Meteorological Agency (Hiroaki Kawase)  
"Kawase H. et al., Climatic Change, 139, 2016, 265-278"
- "NGFS\*<sup>6</sup> Climate Impact Explorer" was referred to for future changes in temperature.
- - Based on the impact of heavy snowfall that occurred in relevant Sagawa Express sites in January 2021.

Changes in Once-in-a-Decade Heavy Snowfall



Source: Hiroaki Kawase (Department of Applied Meteorology Research, Meteorological Research Institute, Japan Meteorological Agency)  
"Snow of Japan Changing Due to Global Warming"

#### ■ Changes in the Frequency of Occurrence of Heavy Snowfall

Based on the above paper, it was assumed that "snowfall of 60 cm or more" is once-in-a-decade heavy snowfall. The changes in the frequency of occurrence are as follows.

	2020	2050	End of 21st century
Changes in the frequency of occurrence of heavy snowfall	1	1.5 X	2.5 X
Change in temperature*	1.2°C increase	2.3°C increase	4.4°C increase

\* If based on average temperatures from 1986 to 2006

#### ■ Impact of Heavy Snowfall on Operating Revenues (Expected Loss\*)

	2020	2050	End of 21st century
Expected loss	-4.8 million yen	-7.5 million yen	-12.4 million yen

\* Expected loss: Average annual expected loss.  
This takes into account the last-minute demand before the heavy snowfall period and the rebound after the heavy snowfall period.

#### ■ Future Action

The impact on the relevant sites is small, and was evaluated to be immaterial as a financial risk. In addition to continuing to endeavor toward business continuity in the event of anomalous weather in future, we will strengthen systems for preventing vehicles getting stuck in snow and employees having difficulty returning home, while giving the highest priority to ensuring the safety of employees.

## Risk of Heatstroke Caused by Intense Heat

Changes in temperature are believed to have a significant impact on employees working outdoors. This is perceived to be an important matter related to business continuity for the Group whose business is characterized by being labor intensive, and this analysis estimated the rate of increase in the occurrence of heatstroke caused by intense heat, the financial impact and the additional costs required if preventative measures are taken.

### (1) Rate of Increase in the Number of People with Heatstroke and the Financial Impact

The wages paid for days of absence from work due to heatstroke were estimated as the “additional cost for supplementing operations.”

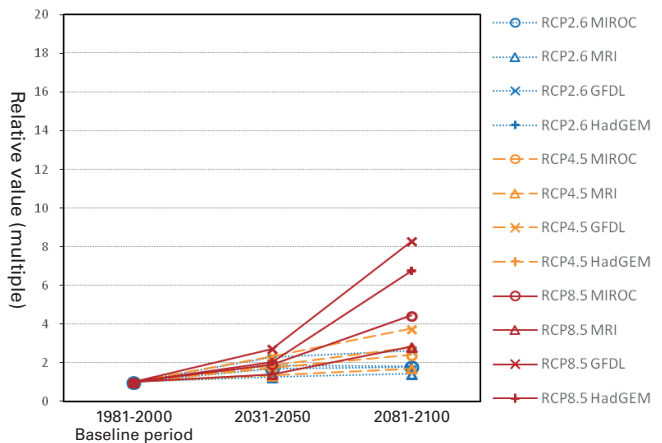
#### ■ Preconditions

Item	Condition	Remarks
Scope	Sagawa Express	—
Climate scenario	4°C Scenario	—
Time scale	Short term:2024 Medium term:2030 Long term:2050	The short term was aligned with the year of execution of the Group’s Mid-Term Management Plan

#### ■ Reference Data

- Index of persons taken to a hospital due to heatstroke in Ministry of the Environment Strategic Research and Development Domain S-8 “Comprehensive Study on Impact Assessment and Adaptation for Climate Change” (2016)
- The average number of days of absence from 2018 to 2022 was used as the 2020 baseline.

Relative Value of the Number of People Taken to Hospital Due to Heatstroke in Each Scenario



Source: Climate Change Adaptation Information Platform portal site <https://adaptation-platform.nies.go.jp/map/national/index.html>

### ■ Additional Cost for Supplementing Operations During the Period of Absence from Work

	2024	2030	2050
Rate of increase in heatstroke*1	1.16	1.4	2.32
Additional cost*2	180,000 yen	450,000 yen	1,500,000 yen

\*1 Rate of increase if 2020 is 1

\*2 Average wages based on actual 2020 figures x increase in the number of days of absence due to heatstroke

#### ■ Action

Although the financial impact is small, matters related to people’s health and safety are evaluated to have a medium to large impact in the Group’s risk management evaluation criteria. In this analysis, it was found that it is necessary to prepare for and take appropriate action against the risk of the rate of occurrence of heatstroke increasing in future. In (2) on the next page, the financial impact in the event of implementing work restrictions is estimated as a recommended preventative measure.

## (2) Financial Impact in the Event of Implementing Work Restrictions as a Preventative Measure

The Ministry of Health, Labour and Welfare recommends additional break time if the WBGT\*7 reference value is exceeded. The necessary break time assuming intense heat was estimated, and a simulation was performed using the wages to be paid for that time as “additional cost for supplementing operations”

### ■ Preconditions

Item	Condition
Scope	Sagawa Express * Sales personnel (including drivers) working outdoors
Climate scenario	4°C Scenario
Time scale	Medium term to long term

### ■ Reference Data

- Ministry of Health, Labour and Welfare “Manual on Preventative Measures Against Heatstroke in the Workplace”
- Temperature data for the four months of summer (June to September) in the Ministry of the Environment’s database

### ■ Additional Cost for Supplementing Operations During the Period of Absence from Work

	Extremely hot year (increase of approx. 2°C)
Financial impact*	3.1 billion yen

\* Extremely hot years and normal years were calculated using the following method, and the difference was used as the additional cost.  
 Additional break time (days) x average daily wage x number of relevant people x percentage of time spent working outdoors

Excess over WBGT reference value	Break time per hour
Around 1°C	15 minutes or more
Around 2°C	30 minutes or more
Around 3°C	45 minutes or more
More	Stop work

Prepared by referring to the Ministry of the Environment “Heatstroke Environmental Health Manual 2022”

### ■ Action

It is possible that there will be a financial impact that cannot be ignored if work restrictions are implemented. However, it is believed that the financial risk can be reduced by adopting effective action at lower cost. In addition to strengthening responses such as labor saving and increasing productivity, we will promote combined measures to address heat such as the fan vests and neck coolers that we are currently introducing.

## 6. Strategy (Business Opportunities)

<Category> **Resource** ... Improvement of resource efficiency **Energy** ... Energy sources  
**Goods** ... Goods and services **Market** ... Market **Resilience** ... Resilience

Background	Response strategy	Effect	Category	
Increase in GHG emissions from truck transportation	Improvement of transportation efficiency	<ul style="list-style-type: none"> <li>Modal shift</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of GHG emissions: -127,000 t-CO<sub>2</sub>/year</li> <li>Strengthening of competitiveness of decarbonization services</li> </ul>	<b>Resource</b> <b>Goods</b>
		<ul style="list-style-type: none"> <li>Joint delivery</li> <li>Operation of large aggregation facilities</li> <li>Establishment of Service Centers</li> <li>Optimization of delivery routes</li> <li>Smaller vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of number of vehicles, shortening of travel distance, reduction of fuel costs through improvement of fuel efficiency, reduction of GHG emissions</li> <li>Reduction of GHG emissions through collection and delivery using bicycles and carts</li> <li>Strengthening of competitiveness of decarbonization services</li> </ul>	<b>Resource</b> <b>Goods</b>
		<ul style="list-style-type: none"> <li>Promotion of environmentally friendly safe driving</li> </ul>	<ul style="list-style-type: none"> <li>&lt;Idling stop&gt;</li> <li>Fuel cost reduction: -1 billion yen/year</li> <li>Reduction of GHG emissions: -24,000 t-CO<sub>2</sub>/year</li> <li>&lt;Utilization of fuel efficiency improvement tools&gt;</li> <li>Fuel cost reduction: -100 million yen/year</li> </ul>	<b>Resource</b>
		<ul style="list-style-type: none"> <li>Recycling of packaging material (stretch film)</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of waste disposal costs</li> <li>Reduction of GHG emissions</li> </ul>	<b>Resource</b>
Social demands for 3Rs	<ul style="list-style-type: none"> <li>Recycling of packaging material (stretch film)</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of waste disposal costs</li> <li>Reduction of GHG emissions</li> </ul>	<b>Resource</b>	
Response to Energy Saving Act	<ul style="list-style-type: none"> <li>Introduction of LED lighting (384 sales offices nationwide)</li> </ul>	<ul style="list-style-type: none"> <li>Electricity cost reduction: -50 million yen/year</li> <li>Reduction of GHG emissions: -1,800 t-CO<sub>2</sub>/year</li> </ul>	<b>Resource</b>	
Rising prices of fossil fuels	<ul style="list-style-type: none"> <li>Introduction of next-generation fuels</li> <li>Use of subsidies</li> <li>Energy supply to partner companies</li> </ul>	<ul style="list-style-type: none"> <li>Preparation for future increases in fossil fuel prices</li> <li>Reduction of GHG emissions</li> <li>Procurement of funds when introducing EVs</li> <li>Scope 3 reductions</li> </ul>	<b>Energy</b>	
Tightening of energy supply and demand	<ul style="list-style-type: none"> <li>Solar power generation in company's own logistics facilities</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening of resilience</li> </ul>	<b>Energy</b> <b>Resilience</b>	
Social demands for decarbonization	<ul style="list-style-type: none"> <li>Creation and internal utilization of forest credits through forests owned by the Group</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of GHG emissions</li> <li>Stimulation of forestry business</li> </ul>	<b>Energy</b>	
Customers' increased interest in decarbonization	<ul style="list-style-type: none"> <li>Visualization of CO<sub>2</sub> related to transportation of customers' packages</li> <li>Development and provision of transportation services, etc. curbing CO<sub>2</sub> emissions</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening of competitiveness</li> <li>Increase of revenues</li> </ul>	<b>Goods</b>	
Promotion of decarbonization investment by the government	<ul style="list-style-type: none"> <li>Utilization of public sector incentives (green bonds, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Diversification of funding methods</li> </ul>	<b>Market</b>	
Heightened interest in disaster prevention	<ul style="list-style-type: none"> <li>Disaster logistics consulting</li> <li>Conclusion of agreements with local governments, creation of relief supply system for regional disasters caused by storms and flooding</li> </ul>	<ul style="list-style-type: none"> <li>Contribution to regional disaster prevention</li> <li>Strengthening of competitiveness</li> <li>Increase of revenues</li> </ul>	<b>Goods</b> <b>Resilience</b>	

# 7. Metrics and Targets

The transportation sector including private vehicles accounts for approximately 20% of Japan’s CO<sub>2</sub> emissions. As the transition to a carbon-free society accelerates, the SG Holdings Group has announced a “Group Decarbonization Vision” as a statement of intent to engage in decarbonization. It explicitly outlines medium- to long-term emission reduction targets in line with Japan’s targets, and the direction of emission reduction measures, and we will implement measures as a logistics group handling social infrastructure.

Scope	Targets
Scope 1 and 2	2030: 46% reduction in CO <sub>2</sub> emissions (*compared to FY2013) 2050: Aim to become carbon neutral
Scope 3	Engage in reduction of emissions throughout the entire supply chain

## ■ Transition Plan (Sagawa Express)

	2021 results	2030 targets
Percentage of implementation of environmentally friendly vehicles including EVs	59%	98%
Percentage of renewable energy in electricity used	14%	40%

\*Reduction level and prerequisites  
 - Reduction level: In line with Japan’s emission reduction targets including offsets using carbon credits, etc.  
 - Prerequisites: Realization of the 2030 power generation mix\* in the Sixth Strategic Energy Plan (\* 59% non-fossil; 36-38% renewable energy, 20-22% nuclear power, 1% hydrogen and ammonia) If there are changes in the reduction level of prerequisites due to social conditions, the emission reduction target may be reviewed.

**Reference sites**

Decarbonization Vision  
 (<https://www.sg-hldgs.co.jp/en/csr/mission/environment/climate/>)  
 Please refer to ESG BOOK for details of greenhouse gas emissions data  
 (<https://www.sg-hldgs.co.jp/en/ir/library/esg-book/>)

# 8. Sources and Notes

\*1 IEA: International Energy Agency

\*2 SG Holdings Group’s Mid-Term Management Plan “SGH Story 2024”  
<https://www.sg-hldgs.co.jp/en/ir/management/plan/>

\*3 SG Holdings Group risk management evaluation criteria

Impact	Evaluation Guideline			
	Qualitative Evaluation			Quantitative Evaluation
	People’s Health & Safety	Civil, Criminal and Administrative Disposition	Social Criticism	Percentage of Losses vs. Operating Income Plan
Large	9	· Level affecting human life	· Level of suspending activities at all business sites	· Level reported nationwide by major media outlets such as newspapers and television
	8		· Level of suspending activities of a sales office	· Level subject to boycotting by consumer groups, etc. 5% or more
	7	· Severe injury level		
Medium	6	· Minor injury level		· Level reported locally by some media outlets
	5	· Level leading to feeling unwell	· Level not reaching suspension of activities (improvement order/fine level)	· Level of receiving many complaints and inquiries at call centers 1% or more and less than 5%
	4			
Small	3			· Level not covered by the media
	2	· No injury level	· Level of warning or guidance	· Level not noticed by society Less than 1%
	1			

\* Basic evaluation is Large = 8, Medium = 5 and Small = 2, each of which can be adjusted by ±1.  
 \* Quantitative evaluation is implemented voluntarily when the anticipated size of the loss can be converted into a monetary amount.

\*4 WEO2022 (World Energy Outlook 2022): A representative report by the IEA indicating the outlook on energy supply and demand, technological development, etc.

\*5 APS (Announced Pledges Scenario): A scenario assuming all climate-related commitments announced by national governments are achieved by the deadlines (equivalent to 1.7°C). By advocating net zero in 2050, in Japan it can be viewed as almost equivalent to NZE (2050 net zero scenario). However, looking worldwide, as there are countries that have not committed to net zero, fossil fuel demand remains, and the fossil fuel price is higher than for NZE. In this analysis, it is used as a “more realistic scenario.”

\*6 NGFS (Network for Greening the Financial System): A network of central banks and financial supervisory authorities established in December 2017 to consider monetary supervision responses to climate change risks.

\*7 WBGT (wet-bulb globe temperature): A metrics proposed in the United States in 1954 for the purpose of preventing heatstroke. It is a metrics that takes into account three aspects that have a significant impact on the heat intake and output of the human body ((1) humidity, (2) surrounding thermal environment such as insolation and radiation, and (3) temperature).